Maximum voltage/String Sizing

- NEC sets 600V max in residential locations, adopted by many inverter manufacturers.
- Calculate at lowest expected temperature (one good source is ASHRAE).
- This sets the length of an inverter string:
  - N=# of panels in string
  - Ts=standard Temp, 25deg. C.
  - TL=local lowest Temp, from ASHRAE
  - Voc=Open circuit voltage from panel manufacturer spec. sheet
  - η=Temperature coefficient for Voc, from panel spec sheet
  - Vmax=single panel max local voltage
  - Vin=maximum DC in voltage for inverter, from inverter spec sheet (often 600V)

Vmax=Voc*(1+η*(TL-Ts))   N=Vin/Vmax